

REMARKS

In a recent phone communication with Applicant on September 25, 2001, Examiner reviewed claims 48-53 of the above-identified U.S. Patent Application, with the result that claims 48-53 are allowed to group into the first elected set of claims 1-36 which have been deemed allowable in a previous phone communication. However, Examiner cited three references (US Pat. Nos. 5,579,524, 5,848,281, and 5,742,514) deemed to affect the allowability of claims 48-53.

In response, Applicant has amended the independent claim 46 as set forth above to recite the energy-conserving microprocessor or CPU as being the central processing unit that controls the operating function or information processing (in general) of a computer, such as performing arithmetic and logical operations and decoding/executing instructions as known in the art, instead of a power supply or management system. More importantly, Applicant's energy-conserving microprocessor is totally different from the conventional microprocessor or CPU.

In terms of information processing, a conventional computer is designed to be operable in a normal operating state, or inoperable in a standby state, a suspend state and a shutdown state. As a result, in the normal operating state, a conventional microprocessor has to consume maximum energy in order to remain operable for performing information processing, thus requiring consistent heat dissipation that further incurs energy waste and unpleasant or annoying noise. The more powerful is the CPU, the more concern will be on heat dissipation and energy waste as well as annoying noise. When entering the conventional standby state or the shutdown state, the conventional microprocessor becomes essentially inoperable as known in the conventional practice.

In contrast, Applicant's independent claim 48 recites the energy-conserving microprocessor as comprising (a) keep-alive circuitry operable for performing auxiliary information processing when receiving keep-alive power, and (b) main circuitry operable for performing main information processing only when receiving main power. Applicant's claim 50 clearly defines the keep-alive circuitry as being provided for controlling an activity of associated device means (for example, a CD/DVD player, a hard-disk drive, and/or a network card) when the main power is absent. This is particular useful in energy conservation and noise elimination because a computer does not consistently require its high-computation power for playing a music CD or for recording information being slowly down-loaded, at all. Applicant's claim 51 also defines the energy-conserving microprocessor or CPU as comprising the keep-alive circuitry for performing a keep-alive task (such as playing a music CD or DVD or down-loading information from the Internet) when the main power is absent, i.e., without requiring the presence of the main power. Applicant's claim 52 further defines the energy-conserving microprocessor

or CPU as comprising keep-alive circuitry adapted to establish circuit communication with an interfacing means provided for transmitting a signal issued from an external manual-operable means so as to request the keep-alive circuitry to perform a requested activity selectively when the keep-alive power or the main power is present. In other words, Applicant's claim 52 teaches that the microprocessor or CPU of a computer can be manually activated to operate an energy-conserving operating function for performing auxiliary information processing (so as to eliminate any unnecessary energy waste and annoying noise), when entering a keep-alive state or energy-conserving operating state. In general, Applicant's claim 48-53 teach an energy-conserving microprocessor or CPU comprising auxiliary (or low-computation-power) circuitry for performing simple logical or decoding operations such as playing an audio CD or a DVD, or reading/writing information without requiring the use of main (or high-computation-power) circuitry. The main circuitry is activated only when high-computation-power is needed such as at the beginning of booting, loading a complex software program, or performing complicate computation. Neither of these is taught by any reference of record.

Thus, Applicant's claims 48-53 are now clearly distinguished and totally different from the power supply or power management apparatuses disclosed by Kikinis, Smalley et al., and Bonola.

Applicant believes that the above amendment does not present new matter. Favorable reconsideration and allowance of claims 48-53 are respectfully requested in view of the above amendment and the following remarks.

As per Kikinis, shown is an optimized power supply system for computer equipment. Kikinis teaches a power supply system has plural power supplies for powering selected groups of components.

As per Smalley et al., shown is an apparatus for providing power management function in a multifunction controller having an embedded microprocessor, rather than the microprocessor itself.


As per Bonola, shown is a computer system having a power supply that includes switched and unswitched power modes for supplying appropriate DC voltages.

Neither Kikinis, Smalley et al., nor Bonola teaches an energy-conserving microprocessor or CPU capable of performing auxiliary information processing when receiving keep-alive power (or auxiliary power) and main information processing only when receiving main power, as recited in Applicant's claims 48-53. Thus, Applicant's energy-conserving microprocessor or CPU recited in the amended independent claim 48 is totally different from the power supply or the power management systems taught by Kikinis, Smalley et al., and Bonola, and not anticipated by any reference of record.

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In view of the above, it is believed that Applicant's claims 48-53 define patentable novelty and uniqueness over all the references of record. It is therefore respectfully requested that Applicant's claims 48-53 be also given favorable consideration. Should the Examiner deem further search necessary, Applicant will accept the claims 48-53 as a fifth restriction and file a separate divisional application so that a Notice of Allowance for the claims 1-36 (as indicated in the previous phone message) would be sent in due course.

Respectfully submitted,

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Attachments: Appendix A